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KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER	
DUDA, ADAM K	

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2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,594	SHINOMIYA, NORIHIKO	
	Examiner	**Art Unit**	
	ADAM K. DUDA	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *12 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed 2/12/2008 have been fully considered but they are not persuasive.

2. Applicant's arguments with respect to claim 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 7-12, and 13-18 rejected under 35 U.S.C. 103(a) as being unpatentable over **Shinomiya (US 2002/0138645 A1)**, and in view of **Fujii (“Management of WDM self-healing networks”)**.

Regarding claim 1, Shinomiya discloses a method of determining an alternative communication path **(i.e. having a protecting communication path; see Shinomiya; abstract; “protecting route”)** in a communication network **(see Shinomiya; abstract; “communication network”)** built with a plurality of network nodes **(see Shinomiya; figure 1; plurality of node”)**, comprising: assuming that a network failure occurs **(see Shinomiya; col. 4 lines 40-45; "failure 21")** at a location in a current communication

path **(see Shinomiya; figure 2; “failure 21” occurs on “working communication router”)** through the network nodes **(see Shinomiya; figure 2; "working communication path" is composed through network nodes)**; determining a failure **(see Shinomiya; col. 4 lines 46-51; "information on failure 21 is transmitted through a failure notification message 25")** detected network node **(see Shinomiya; figure 2; “failure 21” has a “failure detection node 24”)** that detects the network failure **(see Shinomiya; figure 2; “failure detection node 24”, thus a node that detects the network failure”)**, out of the network nodes **(see Shinomiya; figure 2; “failure detection node 24” is part of the “working communication path” nodes)**; calculating **(see Shinomiya; col. 2 lines 25-38; “calculated”)** a failure notification time **(see Shinomiya; col. 2 lines 31-37; “summation of the transfer time of a failure notification message”)** for each network node **(see Shinomiya; col. 2 lines 31-37; “to each node”)**, the failure notification time **(see Shinomiya; col. 7 line 27-34; “failure notification time”)** indicating a time **(see Shinomiya; col. 7 line 27-34; “time”, thus indicating a time)** from when a failure notification message is transmitted **(see Shinomiya; col. 7 lines 27-34; “transmitting a failure notification message”)** by the failure detected network node **(see Shinomiya; col. 7 lines 27-34; "transmitting a failure notification message from the failure detection node”)** until the each network node receives the failure notification message **(see Shinomiya; col. 7 lines 27-45; “to respective nodes", thus each network node; figure 9; shows message being forwarded through all network nodes by being forwarded in multiple directions)**;

Regarding claim 2,Shinomiya discloses, wherein the failure notification time **(see Shinomiya; paragraph 106; "failure notification time")** of the network node is the shortest **(see Shinomiya; paragraph 106; "shortest reception time of a failure notification message")** of the network nodes that are positioned on upper stream from the location of the network failure **(see Shinomiya; figure 4 in combination with figure 10; figure 10 shows “”reception time of failure notification message” which is greater for the downstream nodes (nodes 5 and 1 with 10ms and 8.75 ms, respectively) in comparison to the upstream nodes (nodes 4 and 2 with 4.50 ms and 3.25 ms, respectively))**.

Regarding claim 3, Shinomiya discloses, wherein the failure notification time **(see Shinomiya; paragraph 0106; "failure notification")** of the node is smaller than a predetermined time **(see Shinomiya; paragraph 0106; figure 10; In FIG. 10, there are shown a failure location 61; a node 62 which can detect this failure; an upper limit value 63 of the restoration time which was specified by the user; the shortest reception time 64 of a failure notification message calculate from both a message transmission delay in a communication link)**.

Regarding claim 4, Shinomiya discloses, wherein the alternative communication path **(see Shinomiya; “protecting route having a spare communication capacity”)** allows to share an auxiliary communication capacity for other network failure **(see Shinomiya; abstract; ”The protecting route design method includes the steps of searching a protecting route which can minimize a transfer time of the failure notification message from the failure detection node; and then, updating the**

searched protecting route to a protecting route having a spare communication capacity sharable for a different failure and having a route switchover time to be ocmpleted within a given time limit").

Regarding claim 5, Shinomiya discloses, wherein the failure notification time **(i.e. transfer time of the failure notification message; see Shinomiya; paragraph 0011; "the transfer time of the failure notification message from the failure detection node")** is calculated **(see Shinomiya; paragraph 0011; "is calculated")** as a sum **(see Shinomiya; paragraph 011; "from a summation")** of a propagation delay time of a communication link between the network nodes **(i.e. transmission delay time; see Shinomiya; paragraph 011; "transmission delay time of the failure notification message being transmitted on communication links")** and a processing time **(see Shinomiya; paragraph 0011; "processing time")** inputting/outputting the failure notification message in the each network node **(see Shinomiya; paragraph 0011; "an input and output processing time of the failure notification message processed in each node").**

Regarding claim 6, Shinomiya discloses, further comprising calculating a recovery time **(see Shinomiya; paragraph 0043; "switchover time")** of the communication path **(see Shinomiya; "communication route switchover")** as a sum of the failure notification time of the first network node **(see Shinomiya; paragraph 0106; "shortest reception time 64 of the failure notification message")**, a switching time of each network node on the alternative communication path **(see Shinomiya; paragraph 0196; "restoration time")**, and a propagation delay of a signal to be

transferred **(see Shinomiya; paragraph 0120; propagation delay is comprised in the "failure notification message")**.

Regarding claim 1, Shinomiya does not specifically disclose selecting a first network node out of the network nodes based on the failure notification time, the first network node being positioned in the current communication path on upper stream from the location of the network failure; and determining an alternative communication path that includes the first network node and a second network node out of the network nodes, the second network node being positioned in the current communication path on down stream from the location of the network failure.

Regarding claim 2, Shinomiya does not specifically disclose a "first network node".

Regarding claim 3, Shinomiya does not specifically disclose a "first network node".

Regarding claim 1, Fujii more specifically discloses selecting a first network node **(see Fujii; "3.4.1 Alternate Route-Search Phase"; "chooser node")** out of the network nodes **(see Fujii; figure 3; chooser node is selected out of a plurality of network nodes)** based on the failure notification time **(see Fujii; page 1032 "Integrated Network Design Method";"Out method for spare capacity assignment assumes that the restoration algorithm selects in the case of a failure a route requiring the shorts time", thus shortest failure notification time)**, the first network node **(see Fujii; "3.4.1 Alternate Route-Search Phase"; "chooser node")** being positioned in the current communication path **(see Fujii; figure 3; chooser node is in**

the communication path) on upper stream **(see Fujii; page 1030 "3.4.1 Alternate Route-Search Phase", "upstream" sending the "OTS-BDI" which "acts as a trigger for the restoration path" for the "chooser node", thus "chooser node" is located upstream)** from the location of the network failure **(see Fujii; figure 3; the sender node sends the "OTS-BDI" message and is located downstream of the "chooser node" which is located upstream of the "sender node")** and determining an alternative communication path **(see Fujii; page 1030 "3.4.1 Alternate Route Search Phase"; "the destination node for establishing the alternate path is called chooser node")** that includes the first network node **(see Fujii; figure 3; page 1030 "3.4.1 Alternate Route Search Phase"; first node is "chooser node")** and a second network node **(see Fujii; figure 3; page 1030 "3.4.1 Alternate Route Search Phase"; second node is "sender node")** out of the network nodes **(see Fujii; figure 3; the chooser and sender nodes are selected out of a plurality of nodes)**, the second network node **(see Fujii; figure 3; "sender node")** being positioned in the current communication path **(see Fujii; figure 3; "sender node" is on communication path)** on down stream from the location of the network failure **(see Fujii; figure 3; the sender node sends the "OTS-BDI" message and is located downstream of the "chooser node" which is located upstream of the "sender node", therefore sender node is located "downstream")**.

Regarding claim 2; Fujii more specifically discloses a "first network node" (see **Fujii; figure 3; "3.4.1 Alternate Route-Search Phase"; "chooser node" is selected out of a plurality of network nodes)**

Regarding claim 3; Fujii more specifically discloses a "first network node" (see Fujii; figure 3; "3.4.1 Alternate Route-Search Phase"; "chooser node" is selected out of a plurality of network nodes)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Shinomiya, as taught by **Fuji**, thereby addressing issues to the restoration function **(see Fuji; abstract)** as the sturdiness of WDM networks is an important factors, since WDM networks carry a large amount of information and a network failure would cause severe damage **(see Fuji; page 1028 "1. Introduction")**.

Regarding claim 7, Shinomiya discloses an apparatus for determining an alternative communication path **(i.e. having a protecting communication path; see Shinomiya; abstract; "protecting route")** in a communication network **(see Shinomiya; abstract; "communication network")** built with a plurality of network nodes **(see Shinomiya; figure 1; plurality of node")**, comprising: a node selecting unit that determines a failure detected network node that detects a network failure that is assumed **(i.e. assuming that a network failure occurs; see Shinomiya; paragraph 0046; "failure 21", thus using a unit that detects the failure)** to occur at a location in a current communication path **(see Shinomiya; figure 2; "failure 21" occurs on "working communication router")** through the network nodes **(see Shinomiya; figure 2; "working communication path" is composed through network nodes)**, out of the network nodes **(see Shinomiya; figure 2; "working communication path" is composed through network nodes and failure occurs out of the network nodes at a node)**, calculates **(see Shinomiya; paragraph 0012; paragraph 0013; "calculated")** a failure notification time **(see Shinomiya; paragraph 0012; paragraph 0013; "summation of the transfer time of a failure notification message")** for each network node **(see Shinomiya; paragraph 0012; paragraph 0013; "to each node")**, the failure notification time **(see Shinomiya; paragraph 0085; "failure notification time")** indicating a time **(see Shinomiya; paragraph 0085; "time", thus indicating a time)** from when a failure notification message is transmitted **(see Shinomiya; paragraph 0085; "transmitting a failure notification message")** by the failure detected network node **(see Shinomiya; paragraph 0085; "transmitting a failure**

notification message from the failure detection node") until the each network node receives the failure notification message **(see Shinomiya; paragraph 0085; paragraph 0086; paragraph 0087; "to respective nodes", thus each network node; figure 9; shows message being forwarded through all network nodes by being forwarded in multiple directions)**

Regarding claim 8, Shinomiya, wherein the failure notification time **(see Shinomiya; paragraph 106; "failure notification time")** of the network node **(see Shinomiya; paragraph 106; "shortest reception time of a failure notification message")** is the shortest of the network nodes that are positioned on upper stream from the location of the network failure **(see Shinomiya; figure 4 in combination with figure 10; figure 10 shows ""reception time of failure notification message" which is greater for the downstream nodes (nodes 5 and 1 with 10ms and 8.75 ms, respectively) in comparison to the upstream nodes (nodes 4 and 2 with 4.50 ms and 3.25 ms, respectively))**.

Regarding claim 9, Shinomiya discloses, wherein the failure notification time **(see Shinomiya; paragraph 0106; "failure notification")** of the network node is smaller than a predetermined time **(see Shinomiya; paragraph 0106; figure 10; In FIG. 10, there are shown a failure location 61; a node 62 which can detect this failure; an upper limit value 63 of the restoration time which was specified by the user; the shortest reception time 64 of a failure notification message calculate from both a message transmission delay in a communication link)**.

Regarding claim 10, Shinomiya discloses, wherein the alternative communication path **(see Shinomiya; "protecting route having a spare communication capacity")** allows to share an auxiliary communication capacity for other network failure **(see Shinomiya; abstract; "The protecting route design method includes the steps of searching a protecting route which can minimize a transfer time of the failure notification message from the failure detection node; and then, updating the searched protecting route to a protecting route having a spare communication capacity sharable for a different failure and having a route switchover time to be completed within a given time limit")**.

Regarding claim 11, Shinomiya discloses, wherein the failure notification time **(i.e. transfer time of the failure notification message; see Shinomiya; paragraph 0011; "the transfer time of the failure notification message from the failure detection node")** is calculated **(see Shinomiya; paragraph 0011; "is calculated")** as a sum **(see Shinomiya; paragraph 011; "from a summation")** of a propagation delay time of a communication link between the network nodes **(i.e. transmission delay time; see Shinomiya; paragraph 011; "transmission delay time of the failure notification message being transmitted on communication links")** and a processing time **(see Shinomiya; paragraph 0011; "processing time")** for inputting/outputting the failure notification message in the each network node **(see Shinomiya; paragraph 0011; "an input and output processing time of the failure notification message processed in each node")**.

Regarding claim 12, Shinomiya disclsoes, further comprising a calculating unit that calculates a recovery time **(see Shinomiya; paragraph 0043; "switchover time", thus a unit that calculates the recovery time)** of the communication path **(see Shinomiya; "communication route switchover")** as a sum of the failure notification time of the first network node **(see Shinomiya; paragraph 0106; "shortest reception time 64 of the failure notification message")**, a switching time of each network node on the alternative communication path **(see Shinomiya; paragraph 0196; "restoration time")**, and a propagation delay of a signal to be transferred **(see Shinomiya; paragraph 0120; propagation delay is comprised in the "failure notification message")**.

Regarding claim 7, Shinomiya does not specifically disclose selecting a first network node out of the network nodes based on the failure notification time, the first network node being positioned in the current communication path on upper stream from the location of the network failure; and a path searching unit that determines an alternative communication path that includes the first network node and a second network node out of the network nodes, the second network node being positioned in the current communication path on down stream from the location of the network failure.

Regarding claim 8, Shinomiya does not specifically disclose a "first network node".

Regarding claim 9, Shinomiya does not specifically disclose a "first network node".

Regarding claim 7, Fujii more specifically discloses selecting a first network node (see Fujii; "3.4.1 Alternate Route-Search Phase"; "chooser node") out of the network nodes (see Fujii; figure 3; chooser node is selected out of a plurality of network nodes) based on the failure notification time (see Fujii; page 1032 "Integrated Network Design Method";"Out method for spare capacity assignment assumes that the restoration algorithm selects in the case of a failure a route requiring the shorts time", thus shortest failure notification time), the first network node (see Fujii; "3.4.1 Alternate Route-Search Phase"; "chooser node") being positioned in the current communication path (see Fujii; figure 3; chooser node is in the communication path) on upper stream (see Fujii; page 1030 "3.4.1 Alternate Route-Search Phase", "upstream" sending the "OTS-BDI" which "acts as a trigger for the restoration path" for the "chooser node", thus "chooser node" is located upstream) from the location of the network failure (see Fujii; figure 3; the sender node sends the "OTS-BDI" message and is located downstream of the "chooser node" which is located upstream of the "sender node"); and a path searching unit that determines an alternative communication path (see Fujii; page 1030 "3.4.1 Alternate Route Search Phase"; "the destination node for establishing the alternate path is called chooser node", thususing a path searching unit) that includes the first network node (see Fujii; figure 3; page 1030 "3.4.1 Alternate Route Search Phase"; first node is "chooser node") and a second network node (see Fujii; figure 3; page 1030 "3.4.1 Alternate Route Search Phase"; second node is "sender node") out of the network nodes (see Fujii; figure 3; the chooser and

sender nodes are selected out of a plurality of nodes), the second network node (see Fujii; figure 3; "sender node") being positioned in the current communication path (see Fujii; figure 3; "sender node" is on communication path) on down stream from the location of the network failure (see Fujii; figure 3; the sender node sends the "OTS-BDI" message and is located downstream of the "chooser node" which is located upstream of the "sender node", therefore sender node is located "downstream").

Regarding claim 8; Fujii more specifically discloses a "first network node" (see Fujii; figure 3; "3.4.1 Alternate Route-Search Phase"; "chooser node" is selected out of a plurality of network nodes)

Regarding claim 9; Fujii more specifically discloses a "first network node" (see Fujii; figure 3; "3.4.1 Alternate Route-Search Phase"; "chooser node" is selected out of a plurality of network nodes)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Shinomiya, as taught by **Fuji**, thereby addressing issues to the restoration function **(see Fuji; abstract)** as the sturdiness of WDM networks is an important factors, since WDM networks carry a large amount of information and a network failure would cause severe damage **(see Fuji; page 1028 "1. Introduction")**.

Regarding claim 13, Shinomiya discloses a computer program product for realizing a method **(see Shinomiya; abstract; method performed on digital hardware, thus performing a method using instructions embedded in a computer readable medium)** of determining an alternative communication path **(i.e. having a protecting communication path; see Shinomiya; abstract; "protecting route")** in a communication network **(see Shinomiya; abstract; "communication network")** built with a plurality of network nodes **(see Shinomiya; figure 1; plurality of node")**, including computer executable instructions stored on a computer readable medium, wherein the instructions, when executed by the computer **(see Shinomiya; abstract; method performed on digital hardware, thus performing a method using instructions embedded in a computer readable medium)**, cause the computer to perform: assuming that a network failure occurs **(see Shinomiya; col. 4 lines 40-45; "failure 21")** at a location in a current communication path **(see Shinomiya; figure 2; "failure 21" occurs on "working communication router")** through the network nodes **(see Shinomiya; figure 2; "working communication path" is composed through network nodes)**; determining a failure **(see Shinomiya; col. 4 lines 46-51; "information on failure 21 is transmitted through a failure notification message 25")** detected network node **(see Shinomiya; figure 2; "failure 21" has a "failure detection node 24")** that detects the network failure **(see Shinomiya; figure 2; "failure detection node 24", thus a node that detects the network failure")**, out of the network nodes **(see Shinomiya; figure 2; "failure detection node 24" is part of the "working communication path" nodes)**; calculating **(see Shinomiya; col. 2 lines**

25-38; “calculated”) a failure notification time **(see Shinomiya; col. 2 lines 31-37; “summation of the transfer time of a failure notification message”)** for each network node **(see Shinomiya; col. 2 lines 31-37; “to each node”)**, the failure notification time **(see Shinomiya; col. 7 line 27-34; “failure notification time”)** indicating a time **(see Shinomiya; col. 7 line 27-34; “time”, thus indicating a time)** from when a failure notification message is transmitted **(see Shinomiya; col. 7 lines 27-34; “transmitting a failure notification message”)** by the failure detected network node **(see Shinomiya; col. 7 lines 27-34; "transmitting a failure notification message from the failure detection node")** until the each network node receives the failure notification message **(see Shinomiya; col. 7 lines 27-45; “to respective nodes", thus each network node; figure 9; shows message being forwarded through all network nodes by being forwarded in multiple directions)**;

Regarding claim14, Shinomiya discloses, wherein the failure notification time **(see Shinomiya; paragraph 106; "failure notification time")** of the network node is the shortest **(see Shinomiya; paragraph 106; "shortest reception time of a failure notification message")** of the network nodes that are positioned on upper stream from the location of the network failure **(see Shinomiya; figure 4 in combination with figure 10; figure 10 shows “”reception time of failure notification message” which is greater for the downstream nodes (nodes 5 and 1 with 10ms and 8.75 ms, respectively) in comparison to the upstream nodes (nodes 4 and 2 with 4.50 ms and 3.25 ms, respectively))**.

Regarding claim 15, Shinomiya discloses, wherein the failure notification time **(see Shinomiya; paragraph 0106; "failure notification")** of the network node is smaller than a predetermined time **(see Shinomiya; paragraph 0106; figure 10; In FIG. 10, there are shown a failure location 61; a node 62 which can detect this failure; an upper limit value 63 of the restoration time which was specified by the user; the shortest reception time 64 of a failure notification message calculate from both a message transmission delay in a communication link)**.

Regarding claim 16, Shinomiya discloses, wherein the alternative communication path **(see Shinomiya; "protecting route having a spare communication capacity")** allows to share an auxiliary communication capacity for other network failure **(see Shinomiya; abstract; "The protecting route design method includes the steps of searching a protecting route which can minimize a transfer time of the failure notification message from the failure detection node; and then, updating the searched protecting route to a protecting route having a spare communication capacity sharable for a different failure and having a route switchover time to be completed within a given time limit")**.

Regarding claim 17, Shinomiya discloses, wherein the failure notification time **(i.e. transfer time of the failure notification message; see Shinomiya; paragraph 0011; "the transfer time of the failure notification message from the failure detection node")** is calculated **(see Shinomiya; paragraph 0011; "is calculated")** as a sum **(see Shinomiya; paragraph 011; "from a summation")** of a propagation delay time of a communication link between the network nodes **(i.e. transmission delay**

time; see Shinomiya; paragraph 011; "transmission delay time of the failure notification message being transmitted on communication links") and a processing time **(see Shinomiya; paragraph 0011; "processing time")** for inputting/outputting the failure notification message in the each network node **(see Shinomiya; paragraph 0011; "an input and output processing time of the failure notification message processed in each node").**

Regarding claim 18, Shinomiya discloses, further comprising calculating a recovery time **(see Shinomiya; paragraph 0043; "switchover time")** of the communication path **(see Shinomiya; "communication route switchover")** as a sum of the failure notification time of the first network node **(see Shinomiya; paragraph 0106; "shortest reception time 64 of the failure notification message")**, a switching time of each network node on the alternative communication path **(see Shinomiya; paragraph 0196; "restoration time")**, and a propagation delay of a signal to be transferred **(see Shinomiya; paragraph 0120; propagation delay is comprised in the "failure notification message")**.

Regarding claim 13, Shinomiya does not specifically disclose selecting a first network node out of the network nodes based on the failure notification time, the first network node being positioned in the current communication path on upper stream from the location of the network failure; and determining an alternative communication path that includes the first network node and a second network node out of the network nodes, the second network node being positioned in the current communication path on down stream from the location of the network failure.

Regarding claim 14, Shinomiya does not specifically disclose a "first network node".

Regarding claim 15, Shinomiya does not specifically disclose a "first network node".

Regarding claim 13, Shinomiya more specifically discloses selecting a first network node (see Fujii; "3.4.1 Alternate Route-Search Phase"; "chooser node") out of the network nodes (see Fujii; figure 3; chooser node is selected out of a plurality of network nodes) based on the failure notification time (see Fujii; page 1032 "Integrated Network Design Method";"Out method for spare capacity assignment assumes that the restoration algorithm selects in the case of a failure a route requiring the shorts time", thus shortest failure notification time), the first network node (see Fujii; "3.4.1 Alternate Route-Search Phase"; "chooser node") being positioned in the current communication path (see Fujii; figure 3; chooser node is in the communication path) on upper stream (see Fujii; page 1030 "3.4.1 Alternate Route-Search Phase", "upstream" sending the "OTS-BDI" which "acts as a trigger for the restoration path" for the "chooser node", thus "chooser node" is located upstream) from the location of the network failure (see Fujii; figure 3; the sender node sends the "OTS-BDI" message and is located downstream of the "chooser node" which is located upstream of the "sender node"); and determining an alternative communication path (see Fujii; page 1030 "3.4.1 Alternate Route Search Phase"; "the destination node for establishing the alternate path is called chooser node") that includes the first network node (see Fujii; figure 3; page 1030

"3.4.1 Alternate Route Search Phase"; first node is "chooser node") and a second network node (see Fujii; figure 3; page 1030 "3.4.1 Alternate Route Search Phase"; second node is "sender node") out of the network nodes (see Fujii; figure 3; the chooser and sender nodes are selected out of a plurality of nodes), the second network node (see Fujii; figure 3; "sender node") being positioned in the current communication path (see Fujii; figure 3; "sender node" is on communication path) on down stream from the location of the network failure (see Fujii; figure 3; the sender node sends the "OTS-BDI" message and is located downstream of the "chooser node" which is located upstream of the "sender node", therefore sender node is located "downstream").

Regarding claim 14; Fujii more specifically discloses a "first network node" (see Fujii; figure 3; "3.4.1 Alternate Route-Search Phase"; "chooser node" is selected out of a plurality of network nodes)

Regarding claim 15; Fujii more specifically discloses a "first network node" (see Fujii; figure 3; "3.4.1 Alternate Route-Search Phase"; "chooser node" is selected out of a plurality of network nodes)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Shinomiya, as taught by **Fuji**, thereby addressing issues to the restoration function **(see Fuji; abstract)** as the sturdiness of WDM networks is an important factors, since WDM networks carry a large amount of information and a network failure would cause severe damage **(see Fuji; page 1028 "1. Introduction")**.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Yasuki Fuji et al. [TRANSLATION], "A Study on Path Restoration Method Based on Pre-Planned Configuration", Nov. 2000, IECE, pp 67-72

b. Shinomiya (U.S. 7,188,280 B2)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM K. DUDA whose telephone number is (571)270-5136. The examiner can normally be reached on 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Adam K Duda/
Examiner, Art Unit 2616

16-Apr-08

/Kwang B. Yao/
Supervisory Patent Examiner, Art Unit 2616